

Notes on Utah Coleoptera.¹

By the late H. J. PACK.

This paper records the occurrence of a number of species of beetles, some of which have not heretofore been listed from Utah. Some of the wire-worms and long-horned beetles occasionally become rather destructive to field crops or shade or forest trees. The writer wishes to thank Dr. E. C. Van Dyke for his kindness in determining the Cerambycids and Mr. M. C. Lane for naming the Elaterids.

Family CERAMBYCIDAE, Long-horned Beetles.

1. *PRIONUS CALIFORNICUS* Mots. Collected at Bountiful, August 24, 1929 (Pack); Fort Duchesne, July 10, 1926 (C. J. Sorenson), July 20, 1927 (K. Sorenson), August 1, 1927 (W. Sorenson); Logan; Ogden, July 12, 1906; Provo, 1924 (C. J. Sorenson).

2. *TRAGOSOMA DEPSARIUM* (L.). Logan, August 5, 1903, August 5, 1921 (G. E. King), September 12, 1923 (Knowlton), September 23, 1923 (Pack).

3. *ASEMUM ATRUM* Esch. Ephraim, June 17, 1904; Logan, June 22, 1903 (twenty specimens); Providence, July 15, 1904.

4. *CRIOCEPHALUS PRODUCTUS* Lec. Logan, July 14, 1929 (Pack).

5. *ROMALEUM HISPICORNE* (L.). Provo, August 26, 1925 (C. J. Sorenson); on poplar trees at a tourist auto park, Salt Lake City, August 1929 (Pack).

6. *RHAGIUM LINEATUM* Oliv. Logan, July 9, 1904, May 29, 1919 (Henderson).

7. *STENOCORUS VESTITUS* Hald. Bountiful, June 1929 (Pack); Logan Canyon, July 4, 1909 (Hoff).

8. *S. VESTITUS ATER* Leng. Logan, June 15, 1929 (Pack).

9. *EVODINUS MONTICOLA* (Rand.). Richfield, June 13, 1903.

10. *ACMAEOPS SUBPILOSA* Lec. Bountiful, July 20, 1929 (Pack); Pleasant Grove, June 21, 1929 (Pack).

11. *TYPOCERUS BALTEATA* Horn. Logan.

¹Contribution from the Department of Entomology, Utah Agricultural Experiment Station. This manuscript was prepared by G. F. Knowlton after the death of Dr. Pack (died January 5, 1930); therefore any mistakes in compiling the list should be credited to the one preparing it for publication. Publication authorized by Director, February 7, 1930

12. *ROSALIA FUNEBRIS* Mots. Logan, September 3, 1923 (Knowlton), September 13, 1923 (Pack), July 1929 (Pack); Salt Lake City (Maughan).

13. *SEMANOTUS LIGNEUS* Fab. Logan, April 17, 1905.

14. *S. NICOLAS* (White). Logan, April 8, 1918.

15. *CALLIDIUM ANTENNATUM* Newm. Logan, April 10, 1904, April 23, 1905; Payson, April 18, 1904.

16. *ANTHOPHILAX MIRIFICUS* Bland. Logan, July 9, 1904.

17. *XYLOTRECHUS ANNOSUS* (Say). Lewiston, May 23, 1923 (Knowlton).

18. *NEOCLYTUS CAPREA* (Say). A number of adults were reared from apple wood, by school children at Castleton, spring of 1929; Logan, April 26, 1916 (C. J. Sorenson).

19. *CROSSIDIUS DISCOIDEUS* (Say). Brigham, September 2, 1927 (Knowlton); Logan, September 7, 1906.

20. *BATYLE IGNICOLLIS* (Say). Fairview, July 20, 1929 (Pack).

21. *MONOCHAMUS SCUTELLATUS* (Say). Draper, August 1909 (Titus); Logan, August 14, 1921 (G. E. King); Logan Canyon; Provo, August 15, 1924 (C. J. Sorenson).

22. *OBEREA TRIPUNCTATA BASALIS* Lec. Cache Junction, July 3, 1912 (Hagan); Logan; Manti, June 16, 1903. Several specimens were collected at Franklin, Idaho, May 24, 1923 (Knowlton).

23. *TETRAOPES FEMORATUS* Lec. Deseret, July 1, 1926 (Knowlton); Fort Duchesne, August 1, 1927 (C. J. Sorenson); Logan, July 20, 1927 (Knowlton); Ogden, June 12, 1927 (Knowlton); Pleasant Grove, July 23, 1929 (Knowlton); Provo, July 25, 1927 (Knowlton); Syracuse, June 29, 1929 (Knowlton). This form is very common in northern Utah.

Family OEDEMERIDAE.

24. *CALOPUS ANGUSTUS* Lec. Hyrum, April 10, 1916; Logan, April 6, 1905; Ogden, April 7, 1915.

25. *COPIDITA BICOLOR* (Horn). Logan, August 6, 1907 (Ball).

26. *OXACIS SERICEA* Horn. Numerous on Russian thistle at Grantsville, July 24, 1929 (Knowlton); Plain City, August 5, 1903; Willard, August 7, 1903.

Family ELATERIDAE, Click Beetles.

27. *AEOLUS DORSALIS* (Say). In clover at Garland, August 2, 1929 (Pack); Logan, July 20, 1929 (Pack); Ogden, May 23, 1929 (Knowlton).

28. *LIMONIUS INFUSCATUS* Mots. Bountiful, May 11, 1929 (Pack and Janes); Logan, April 6, 1905; Millcreek, April 18, 1910 (Titus).

29. *L. BASILLARIS* (Say). Logan.

30. *PHILETES CALIFORNICUS* (Mann.) Lewiston, September 9, 1929 (Pack and Knowlton).

31. *ATHOUS PALLIDIPENNIS* Mann. Logan, July 30, 1904.

32. *LUDIVS MORULUS* (Lec.). Logan, July 9, 1904.

33. *L. PROPOLA* (Lec.). Bountiful, July 12, 1929 (Pack and Janes).

34. *L. FALLAX* (Say). Fairview, July 10, 1929 (Pack); Divide, Sardine Canyon, June 26, 1929 (Pack).

35. *L. LEUCASPIS* (Germ.). Salt Lake City, June 6, 1929 (Knowlton).

36. *L. INFLATUS* (Say). Cache Junction, June 3, 1912 (Hagan); Logan, May 17, 1929 (Knowlton); Mantua, June 1, 1929 (Pack); Divide, Sardine Canyon, June 26, 1929 (Pack).

37. *L. SEMIVITTATUS* (Say). Logan; Trenton, April 29, 1927 (Knowlton).

38. *HEMICREPIDIUS CARBONATUS* Lec. Austin, June 25, 1926 (Knowlton); Logan, June 20, 1903 and July 13, 1907.

39. *H. HIRTUS* Cand. Logan, July 20, 1929 (Pack and Knowlton).

40. *CRYPTOHYPNUS SQUALIDUS* (Lec.). Logan, September 2, 1903.

41. *AGRIOTES FUCOSUS* (Lec.). Newton, July 1927 (Pack).

42. *A. FERRUGINEIPENNIS* Lec. Logan, July 5, 1906 and July 4, 1907.

43. *DOLOPIUS LATERALIS* Esch. Bountiful, May 25, 1929 (Pack); Cache Junction, April 15, 1906; Logan, August 5, 1903 and September 12, 1904; Mantua, June 1, 1929 (Pack); Provo, June 10, 1906.

44. *MELANOTUS FISSILIS* (Say). St. George, June 17, 1923 (Hawley).

45. *M. OREGONENSIS* (Lec.). Bountiful, June 20, 1929 (Pack); Tooele, June 14, 1929 (Knowlton).
46. *CARDIOPHORUS GAGATES* Er. Logan, 1923 (Knowlton).
47. *C. TENEBROSUS* Lec. Logan, July 9, 1904; Mantua, June 1, 1929 (Pack).
48. *C. CARBONATUS* Bl. Bountiful, May 29, 1929 (Pack and Janes); Logan, April 2, 1905 and April 10, 1910.

Notes on Utah Vespidae (Hymen.).

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Subfamily POLYBIINAE.

6. *MISCHOCYTARUS FLAVITARSIS* SAUSS. UTAH: Zion National Park, August, 1926, five females (Tanner); Bryce Canyon, two females (Tanner); Moab, June, 1927, three females and two males (Tanner, Cottam, Kartchner, Call); Ute Mountains, Utah-Colorado line, June, 1927, one female (Tanner); Provo, nine females (Tanner, Call, Hayward); Rosevere Creek, Raft River, June, 1927, one female (Tanner); Logan, July, 1926, two males (Hayward); Logan Canyon, Tony's Ranger Station, June, 1926, one female (Brown); Springville, one male (Hayward); Raft River Mountains, El. 10,000 ft., one female (Beck).

CALIFORNIA: Stanford University, July, 1921, two females (Tanner).

ARIZONA: Bisbee, one female (Curtis).

IDAHO: Moscow, one female (Sudweeks); Burley, two females (Beck).

An interesting observation in connection with the specimens of this species in the collection is the close correlation between coloration and locality. While the species as a whole is extremely variable in color and size, the specimens from a given locality have a marked likeness in this respect. Specimens from southern Utah, California, and Arizona are on the whole much lighter in coloration and generally smaller in size than are those from northern Utah and Idaho. The specimens from any limited area are remarkably alike; however, there seem to be some sexual variations, since, in the five specimens from Moab,